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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,161	01/18/2002	Satoshi Kume	025311-0114	7612
22428	7590	11/17/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			KORNAKOV, MICHAEL	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,161

Applicant(s)

KUME, SATOSHI

Examiner

Michael Kornakov

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 5 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 2-6 and 8-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/18/02, corrected on 8/30/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendment, dated 8/30/2004, has overcome objections to the specification and drawings and the rejection under 35 U.S.C. 112, second paragraph and the said objections and rejections are withdrawn. The cancellation of claims 1 and 7 is noticed.
2. Claims 2-6, 8-13 are currently pending. Claims 8-13 are withdrawn from consideration as being drawn to a non-elected invention. Claims 2-6 are examined on the merits.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 2 stands rejected under 35 U.S.C. 102(e) as being anticipated by Busnaina (U.S. 2001/0013355).

Busnaina describes megasonic cleaning system, which includes a container 206 to be filled with cleaning media; a plurality of transducers (210a'), disposed in container and immersed during the treatment, the said transducers distributed evenly throughout the bottom surface of the container (Fig 8), which reads on "plurality of oscillation sources, disposed in a uniformly dispersed manner", as instantly claimed; substrate holder 208 (reads on "a retainer", as instantly claimed) (Fig.8; paragraph 0034). The apparatus of Busnaina is fully capable of irradiating ultrasonic waves onto a back surface of the substrate. Therefore, all the limitations of the instant claim 2 are inherently or explicitly met by Busnaina.

5. Claims 4, 6 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP05-206095.

JP'095 discloses substrate ultrasonic treating apparatus, which comprises processing tub 9, to be filled with processing liquid, ultrasonic generation source, disposed inside the processing tub and substrate conveyance device to support the substrate, while substrate is immersed and ultrasonically treated in processing liquid. The apparatus of JP'095 is fully capable of providing ultrasonic treatment to any substrate surface, including the back surface, as soon as this surface faces the ultrasonic generation source. The apparatus of JP'095 further includes nozzles (94, 95) for supplying the processing fluid, the said nozzles positioned between the substrate and the ultrasonic generation source, and therefore inherently being capable of dumping ultrasonic waves originating from the ultrasonic generation source (reads on "propagation control apparatus", as instantly recited). Due to their positioning, the nozzles of JP'095 are also fully capable of squirting a processing fluid in the propagation path of ultrasonic waves (abstract, paragraph 0026, Fig. 1-3).

Therefore, all the limitations of instant claims are inherently or explicitly met by JP'095.

Allowable Subject Matter

6. Claims 3 and 5 are allowable over the prior art of record.

Applicant has amended claim 3 and presented the English translation of the priority document, thus overcoming rejection over U.S. 2002/0166569 to Harvey et al in

accordance with 37 CFR 1.55. See MPEP § 201.15. No other prior art that anticipates or suggests fairly the combination of structural elements, as provided by the instant claim 3 has been located as of the date of this office action. Therefore, claim 3 is allowed over the prior art of record.

Applicant has amended claim 5 as was suggested in the previous Office Action. Therefore, claim 5 is allowed as per reasons of record.

Response to Arguments

7. Applicant's arguments filed 08/30/2004 have been fully considered but they are not persuasive.

Regarding claim 2 Applicant argues that Busnaina does not disclose a plurality of oscillation sources disposed in a uniformly dispersed manner. Applicants attention is drawn to the definition of terms "uniform" and "disperse", provided by Merriam-Webster's Collegiate Dictionary. The term "uniform" is characterized as presenting an unvaried appearance of pattern and the term "disperse" is characterized as to distribute more or less evenly throughout a medium, which is exactly how the transducers of Busnaina are positioned, as can presented on Fig. 8 of Busnaina. Regarding claims 4 and 6 Applicant argues that JP'095 fails to disclose or suggest a propagation control apparatus for scattering or **damping** ultrasonic waves originating from the ultrasonic oscillator". However, as addressed above, because the nozzles of JP'095 are positioned between the substrate and the ultrasonic generation source, these nozzles are inherently capable of dumping or scattering ultrasonic waves

originating from the ultrasonic generation source, which reads on "propagation control apparatus", as instantly recited. As to the limitation of claim 6, reciting "jet nozzles for squirting a chemical in the propagation path of ultrasonic waves", Applicant in his arguments has admitted that the nozzles of JP'095 provide the flow of fluid in one direction along the rear surface of the wafer 2 (page 9 of Remarks), which reads on the instantly claimed limitation.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Kornakov

Michael Kornakov
Primary Examiner
Art Unit 1746

11/15/2004